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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/774,549 | 01/31/2001 | Walter Vincent Dixon | RD-27,937 | 3210 |

6147 7590 11/14/2003

GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH CENTER
PATENT DOCKET RM. 4A59
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| EXAMINER |
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AZARIAN, SEYED H

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| ART UNIT | PAPER NUMBER |
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2625

DATE MAILED: 11/14/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/774,549

Applicant(s)

DIXON ET AL.

Examiner

Seyed Azarian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21, 25-37 and 40-45 is/are rejected.
- 7) ☒ Claim(s) 22-24, 38 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21, 25-37 and 40-45, are rejected under 35 U.S.C. 103(a) as being unpatentable over Murthy et al (U.S. patent 6,055,295) in view of Zur (U.S. patent 6,243,441).

Regarding claim 1, Murthy discloses an image data acquisition system, comprising:
a host computer having at least one host processor executing operations with an operating system and a host memory storing data; and a detector framing node being programmable to receive image data from a selected flat panel detector of a plurality of different flat panel detectors, and communicating the received image data to the host memory independent of the operating system (column 6, lines 28-38, refer to binary decision and terminal node also column 3, lines 8-20, X-ray beam can be recorded by recording media 28).

However Murthy is silent about "communication and host computer". On the other hand Zur teaches system host computer and a communications link preferably connects the image detection module (column 8, lines 21-33).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made, to modify Murthy invention according to the teaching of Zur because it provides as computer network such that an image processor may receive the digitized pixels via as network server for connection to the communication link which can easily be implements in an image device for better result and accuracy.

Regarding claim 2, Murthy discloses the image data acquisition system according to claim 1, wherein the host computer runs a non-real time operating system, and said detector framing node continues to receive and store the image data from the selected flat panel detector during a lapse in communication with the host memory (column 1, line 64 through column 2, lines 4, receiving the images at an imaging station and location of body region and Fig. 1, element 26, refer to image intensifier or flat panel).

Regarding claim 3, Murthy fails to disclose "amorphous silicon". On the other hand Zur teaches photoelectric conversion layer is amorphous selenium (column 11, lines 22-27).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made, to modify Murthy invention according to the teaching of Zur because it is conventional technique that provides electrical signal and detect the radiation from the scintillation screen to generate spatial intensity pattern to achieve quality and desirable image.

Regarding claim 5, Murthy discloses the image data acquisition system according to claim 1, said detector framing node communicating the received image data with the host memory over a computer communication bus at a first clock frequency and receiving the image data from the selected flat panel detector over an image detection bus at a second clock frequency different from the first clock frequency (column 3, lines 45-57, refer to running time).

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Regarding claim 12, Murthy discloses the image data acquisition system according to claim 1, wherein the operating system is a task based operating system, and said detector framing node continues to receive the image data from the selected flat panel detector during a lapse in communicating the received image data from said detector framing node to the host memory (Fig. 3A-3C, column 4, lines 16-33, detecting the X-ray image).

Regarding claim 13, Murthy discloses the image data acquisition system according to claim 12, wherein the task based operating system is a non-real time operating system (Fig. 2, column 5, lines 51-67, classifying image based on its feature values).

Regarding claim 15, Murthy discloses the image data acquisition system according to claim 14, wherein said detector framing node has a real time bus interface communicating instructions to a radiation generation system over a real time bus for triggering generation of radiation, and the image data is generated by the selected flat panel detector in response to the generated radiation (column 3, lines 32-44, refer to generating radiation).

Regarding claim 40, Murthy discloses the detector framing node according to claim 33, wherein the detector framing node selectably receives the image data as real time fluoroscopy image data, or as real time fluorography image data (column 3, lines 46-58, refer to fluoroscopy).

Regarding claim 41, Murthy discloses the detector framing node according to claim 28, wherein the image data is radiosopic image data and the image detection system includes an amorphous silicon photo-diode array outputting the radiosopic image data in response to detection of a radiographic image (column 3, lines 32-44, refer to generating radiation).

Regarding claims 4, 10-11, 16 and 25, the arguments analogous to those presented for claims 2 and 3, are applicable.

Regarding claims 6-9, 14, 17-21 and 26-33, the arguments analogous to those presented for claims 1 and 5 are applicable.

Regarding claims 34-37 and 40-45, the arguments analogous to those presented for claims 1, 5 and 15 are applicable.

Allowable Subject Matter

3. Claims 22-24 and 38-39, are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitation of the base claim and any intervening claims.

Other prior art cited

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. patent (5,262,649) to Antonuk et al is cited for thin-film, flat panel, pixilated detector array for real-time digital imaging and dosimetry of ionizing radiation.

U.S. patent (4,672,454) to Cannella et al is cited for X-ray image scanner and method.

U.S. patent (4,996,413) to McDaniel et al is cited for apparatus and method for reading data from an image detector.

U.S. patent (6,205,199) to Polichar et al is cited for pixel-correlated digital X-ray imaging system.

Contact Information

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (703) 306-5907. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached at (703) 308-5246.

Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, D.C. 20231

Or faxed to:

(703) 872-9306, ("draft" or "informal" communications should be clearly labeled to expedite delivery to examiner).

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to T.C. customer service office whose telephone number is (703) 306-0377.

Seyed Azarian
Patent Examiner
Group Art Unit 2625
November 5, 2002

Timothy M. Johnson
TIMOTHY M. JOHNSON
PRIMARY EXAMINER